



# Air Quality Summary—April 2013



## **Baton Rouge Area**

### **OZONE**

There were no days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of April, 2013. Please see the graph on page two for daily air quality index levels in the Baton Rouge area during April.

*No Action Days were called for the Baton Rouge area during the month of April.*

### ***PM<sub>2.5</sub>***

There were no violations of the NAAQS for PM<sub>2.5</sub> in the Baton Rouge area during the month of April, 2013. Please see the chart and table on the next page for detailed information on PM<sub>2.5</sub> levels throughout the state.

## **Other Areas of the State**

### **OZONE**

There were no days that exceeded the National Ambient Air Quality Standard (NAAQS) for ozone in areas of the state other than Baton Rouge during the month of April, 2013.

*No Action Days were called for any area of the state during the month of April.*

### ***PM<sub>2.5</sub>***

There were no violations of the NAAQS for PM<sub>2.5</sub> during the month of April, 2013. Please see the graph and table on the next page for detailed information on PM<sub>2.5</sub> levels throughout the state.

### **Change to the National Ambient Air Quality Standard for PM<sub>2.5</sub>**

Effective March 18, 2013, EPA revised the National Ambient Air Quality Standards (NAAQS) for fine particles (PM<sub>2.5</sub>), which caused a change in the Air Quality Index breakpoints. Below is a table detailing these changes.

AQI Category	Index Values	Previous Breakpoints (1999 AQI) ( $\mu\text{g}/\text{m}^3$ , 24-hour average)	Revised Breakpoints ( $\mu\text{g}/\text{m}^3$ , 24-hour average)
Good	0 - 50	0.0 - 15.0	0.0 - 12.0
Moderate	51 - 100	>15.0 - 40	12.1 - 35.4
Unhealthy for Sensitive Groups	101 - 150	>40 - 65	35.5 - 55.4
Unhealthy	151 - 200	> 65 - 150	55.5 - 150.4
Very Unhealthy	201 - 300	> 150 - 250	150.5 - 250.4
Hazardous	301 - 400	> 250 - 350	250.5 - 350.4
	401 - 500	> 350 - 500	350.5 - 500



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Good

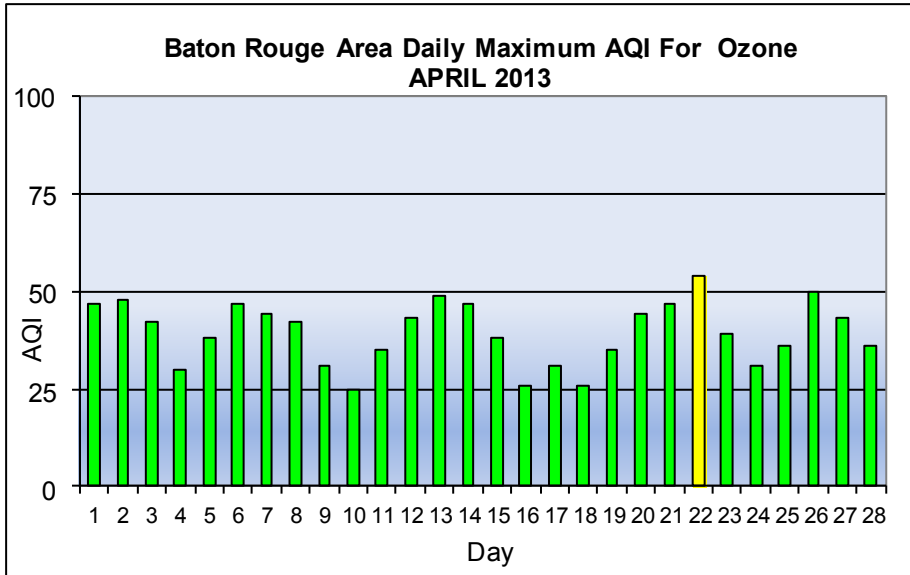
Moderate

Unhealthy for Sensitive Groups

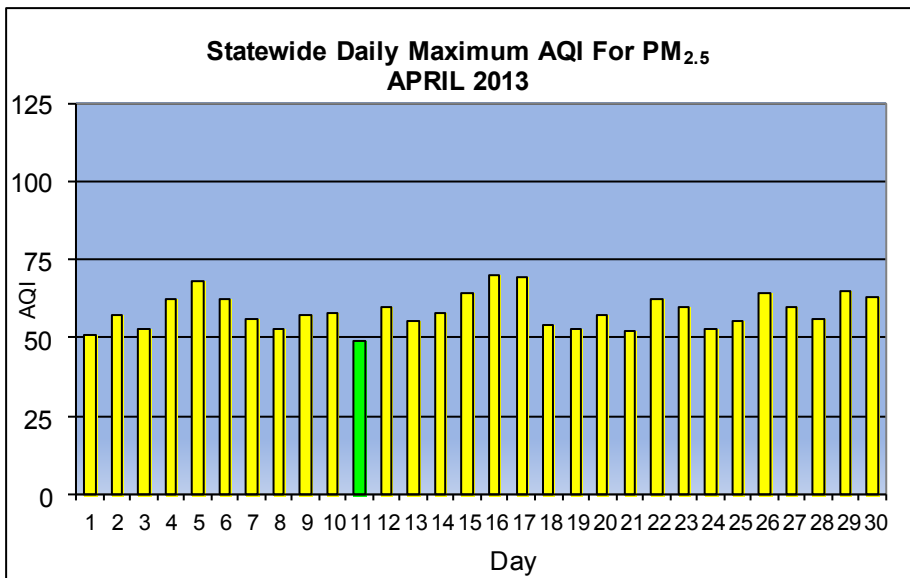
Unhealthy

Very Unhealthy

Hazardous



*Statewide High PM <sub>2.5</sub> 24-Hour Average Readings - APRIL 2013			
DAY	UG/m3	AQI	SITE
1	12.3	51	Monroe
2	15.1	57	Monroe
3	13.2	53	Monroe
4	17.1	62	Monroe
5	20	68	Monroe
6	17.4	62	Monroe
7	14.7	56	Monroe
8	13.1	53	Monroe
9	15	57	Monroe
10	15.2	58	Monroe
11	11.7	49	Monroe
12	16.4	60	Monroe
13	14.2	55	Monroe
14	15.5	58	Monroe
15	18.4	64	Monroe
16	20.9	70	Monroe
17	20.5	69	Monroe
18	13.5	54	Monroe
19	13.2	53	Monroe
20	15.1	57	Monroe
21	12.8	52	Monroe
22	17.2	62	Westlake
23	16.6	60	Monroe
24	13.1	53	Monroe
25	14.2	55	Monroe
26	18.5	64	Monroe
27	16.6	60	Monroe
28	14.6	56	Monroe
29	18.7	65	Monroe
30	17.8	63	Monroe



\*PM<sub>2.5</sub> values contained in this report are not comparable to the National Ambient Air Quality Standards (NAAQS). Attainment of standards is based on the Federal Reference Method (FRM) PM<sub>2.5</sub> monitors that are collocated with the continuous monitors statewide. For a list of these monitors, please visit LDEQ's website at [www.deq.louisiana.gov/portal/DIVISIONS/Assessment/AirFieldServices/AmbientAirMonitoringProgram.aspx](http://www.deq.louisiana.gov/portal/DIVISIONS/Assessment/AirFieldServices/AmbientAirMonitoringProgram.aspx)

# Baton Rouge Climate Summary—April 2013

*\*Prepared by: Jay Grymes*

(based on available preliminary data as of July 7, 2013)

## Baton Rouge Climate Summary: April 2013

(based on available data as of 7 July 2013)

### April Weather Highlights:

- another cooler-than-normal month for the 2013 Spring
- the metro area averages nearly 8" of rain for the month

April 2013's monthly average temperature was 66.1°F for Baton Rouge's Metro Airport (AP), 2.0° below the monthly norm. April 2013 ranks among the coolest one-third of all Aprils since 1905 and is Baton Rouge's coolest April since 2007; April continues the cooler-than-normal weather trend that was established in March of 2013. As a result of back-to-back cooler-than-normal months, Metro Airport's four-month average temperature (January thru April) stands at 58.2°, slightly below the 30-year average temperature of 59.1° for the period.

April's lowest temperature was a cool 39°, recorded on the morning of the 20th. (Records back to 1930 indicate only two freezes for Baton Rouge during past Aprils.) Lows dropped into the 40°s on six additional dates. At the other extreme, daily minimums failed to drop below the 70°s on April 9-10 and again on April 16-17, thanks to pre-frontal weather days when relatively warm-and-moist Gulf air settled over southeast Louisiana. Daily maximums during April ranged from a chilly high of just 55° on April 4th to a very warm high of 87° on the 9th. Highs topped out in the 60°s on three additional dates, while highs reaching 80° or more on a total of 12 April days.

Daily data (Fig. 1 and Appendix 1) show that there were no prolonged runs of unusual temperatures during April 2013. Instead, the data show the expected temperature flip-flops through the month linked to spring frontal passages and the associated changes in air masses.

Given the cooler-than-normal monthly temperatures, April Heating Degree-Days (HDDs) were well-above normal for metro Baton Rouge while Cooling Degree-Days were considerably lower than normal. Largely as a result of cooler-than-normal weather during March and April, HDDs for Baton Rouge are near-normal for the "season" (July to June). Conversely, the recent run of cooler-than-normal weather has meant that CDDs for 2013 are running below normal for the year thus far, translating into a reduced demand for indoor air-conditioning through early- to mid-spring.

**Table 1:** April 2013 Temperature and Degree-Day Summaries

Temperatures & Departures (°F)									
Monthly MeanT		Monthly MaxT		Monthly MinT		F-M-A MeanT		YTD MeanT	
66.1°	-2.0°	76.9°	-2.4°	55.3°	-1.5°	59.4°	-2.1°	58.2°	-0.9°

Cooling Degree-Days & %Normal				Heating Degree-Days & %Normal			
Monthly CDDs		Seasonal* CDDs		Monthly HDDs		Seasonal* HDDs	
113	80%	157	68%	73	143%	1521	98%

\*CDD Season: Jan 1 thru Dec 31

\*HDD Season: Jul 1 thru Jun 30



# Baton Rouge Climate Summary—April 2013

*\*Prepared by: Jay Grymes*

(based on available preliminary data as of July 7, 2013)

Baton Rouge's Metro Airport (AP) recorded 6.20" of rain during April 2013, 1.74" above the 30-year normal. After a drier-than-normal March, the regional weather returned to the "wet" pattern that persisted through the preceding winter months. While April's 6.20" ranks among the top third of all April totals for Baton Rouge (records back to 1888), note that the 6.20" is one of the lowest totals reported across the metro area for the month (Table 3).

For the year (Jan-Apr 2013), Metro AP cumulative rainfall stands at 31.15", nearly 12" above the four-month normal. The first four months of 2013 ranks as the ninth "wettest" for the period for Baton Rouge (since 1888) and the largest Jan-Apr total at Metro AP since 1993.

**Table 2:** Distribution of April 2013 rain totals based on sites (Table 2) with complete monthly records for the month (31 sites).

No. Sites ≤ 6.00"	No. Sites 6.01" - 7.00"	No. Sites 7.01" - 8.00"	No. Sites 8.01" - 9.00"	No. Sites 9.01" - 10.00"	No. Sites > 10.00"
1	5	11	11	0	3

Based on the 31 sites in Table 3 (with complete monthly totals), metro area regional rainfall averaged nearly 8" for April 2013, with a group median of 7.81" – both values more than 3" above the April regional average (roughly 4.5"). New Roads, St. Francisville and Denham Springs reported more than 10.0" of rain for the month. The regional totals suggest that April rains were generally a little greater on the north side of the I-10/12 corridor.

April totals were above-normal across the region – for the 13 NWS Cooperative sites with monthly normal, 5 posted departures of more than +4.0" for the month. The majority of metro area sites recorded measurable rainfall on 10 or more days (Metro AP averages 7 to 8 raindays during April), with most sites also recording 3 or more days with '24-hour' totals of one-inch or more.

Rains on April 14th accounted for a significant portion of the monthly totals for a number of sites: 6" of rain at New Roads, nearly 6" at St. Francisville, and from 2" to more than 4" of rain for a number of additional Baton Rouge area locations.

Daily flows for both the Amite and Comite rivers displayed a rapid response to the rains of April 14th (Figs. 6a & 6b). Although the Comite (at Joor Rd.) failed to reach flood stage, it came close, peaking at 19.2 ft (flood stage: 20.0 ft) on the afternoon and early evening of the 15th. The Amite River briefly rose just above flood stage at Denham Springs, cresting at 29.3 ft (flood stage: 29.0 ft) and remaining at or above flood stage for roughly 13 hours on April 16th. The high water along the Amite at mid-month marks the third time during 2013 that the Denham Springs gage has risen above flood stage; fortunately all three events were "minor" floods (under 35.0 ft) and also of relatively short durations.

Stormy weather on the morning of April 24th included severe storms in the region and a confirmed tornado touchdown in the St. Gabriel area (Tables 5 & 6, Appendix 3). Rain totals during this event typically ranged from less than 1.0" to 2.5" across the metro area, with the larger totals generally south of the I-10/12 corridor.

# Baton Rouge Climate Summary—April 2013

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(based on available preliminary data as of July 7, 2013)

**Table 3:** April 2013 rainfall for selected sites across the greater Baton Rouge metro area. (Data are preliminary and provided courtesy of the National Weather Service, the LSU Southern Regional Climate Center, the LSU AgCenter, and the CoCoRaHS Volunteer Network.)

Rain-Reporting Site	Monthly Rainfall		No. Days		Year-to-Date	
	Total	DFN	≥0.01"	≥1.00"	Total	DFN
<b>NWS Cooperative Stations</b>						
<b>BR – Metro Airport</b>	<b>6.20"</b>	<b>+1.74"</b>	<b>11</b>	<b>3</b>	<b>31.15"</b>	<b>+11.52"</b>
BR - Concord Estates	8.95"	+4.25"	10	3	37.87"	+17.22"
BR - Sherwood Forest	8.61"	+3.98"	12	3	35.83"	+14.53"
Clinton 5 SE	8.81"	+4.00"	9	2	31.50"	+10.33"
Denham Springs	10.71"	+6.42"	13	4	31.89"	+11.99"
Dutchtown #2	6.70"	--	12	3	35.97"	--
Gonzales	6.75"	+1.98"	12	1	32.26"	+12.16"
Livingston	5.47"	+1.05"	10	1	33.56"	+12.78"
New Roads	10.31"	+5.85"	8	2	36.59"	+20.45"
Oaknolia	8.10"	+3.39"	8	2	30.81"	+13.45"
Plaquemine	7.13"	+2.62"	10	3	32.82"	+17.42"
Port Allen	7.51"	+3.03"	9	3	32.23"	+11.95"
St. Francisville	10.20"	+5.38"	9	2	32.61"	+10.92"
St. Gabriel	7.00"	+3.04"	10	3	30.30"	+11.91"
<b>CoCoRaHS Volunteer Observers</b>						
Baton Rouge 2.7 SW (LA-EB-2)	8.86"	--	11	3	36.84"	--
Baton Rouge 3.5 E (LA-EB-14)	7.63"	--	10	3	35.21"	--
Baton Rouge 2.5 E (LA-EB-27)	7.93"	--	11	3	34.02"	--
Baton Rouge 4.3 S (LA-EB-41)	8.21"	--	13	4	35.30"	--
Baton Rouge 1.4 WSW (LA-EB-46)	8.17"	--	11	3	35.83"	--
Baton Rouge 5.3 S (LA-EB-47)	M	--	M	M	M	--
Baton Rouge 2.1 S (LA-EB-48)	8.95"	--	10	3	36.72"	--
Central (LA-EB-23)	7.41"	--	11	3	M	
Central 2.2 SE (LA-EB-31)	7.81"		9	3	31.63"(i)	
Inniswold 2.8 S (LA-EB-42)	7.67"	--	11	4	33.80"	--
Shenandoah 1.5 E (LA-EB-22)	7.58"	--	11	3	32.26"	--
Zachary 3.5 WNW (LA-EB-28)	8.98"(i)	--	12(e)	2	33.95"(i)	--
Gonzales 4.0 S (LA-AS-5)	6.55"	--	10	3	32.47"	--
Prairieville 1.8 NW (LA-AS-10)	7.66"	--	13	3	32.93"	--
Port Vincent 4.4 W (LA-AS-2)	8.46"	--	10	4	37.03"	--
Wakefield 0.9 WNW (LA-WF-4)	8.92"	--	10	3	M	--
<b>Additional Metro Area Sites</b>						
LSU Campus (LA-EB-33)	8.33"	--	9	4	36.67"	--
WAFB-TV, Downtown BR	7.08"	--	10	3	31.11"	--
LSU Ben Hur Farm	7.81"	--	10	4	35.10"	--
Regional Average	7.98"	+3.59"	10.5	2.9	33.95"	+13.59"
Regional Median	7.81"	+3.39"	10	3	33.68"	+12.16"

DFN - Departure-from-Normal      "--" - Not Available

M - Missing Value

(e) – Estimated

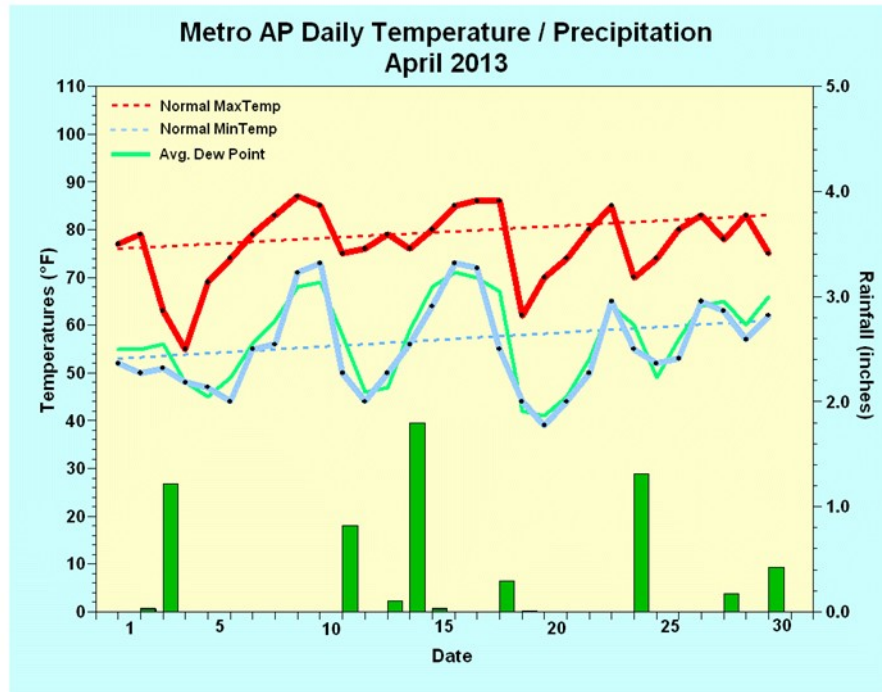
(i) - Incomplete Total

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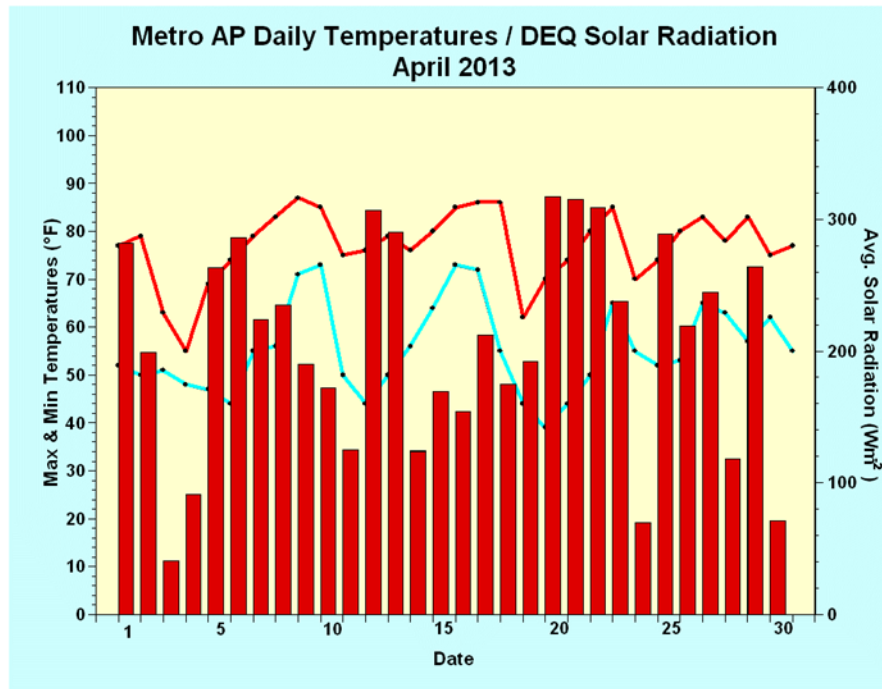
\*Prepared by: Jay Grymes

(based on available preliminary data as of July 7, 2013)

**Figure 1:** April 2013 *Daily Maximum and Minimum Temperatures, Daily Average Dew Points and Precipitation* from the Baton Rouge Metro Airport ASOS.



**Figure 2:** April 2013 *Daily Average Hourly Solar Radiation* as recorded at DEQ's Capitol site and *Daily Maximum and Minimum Temperatures* from the Baton Rouge Metro Airport ASOS.





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Not surprisingly, April's wet weather and frequent frontal periods translated into a number of mostly-cloudy to cloudy days (Fig. 2 & Table 4) along with frequent large drops in daily incoming solar radiation.

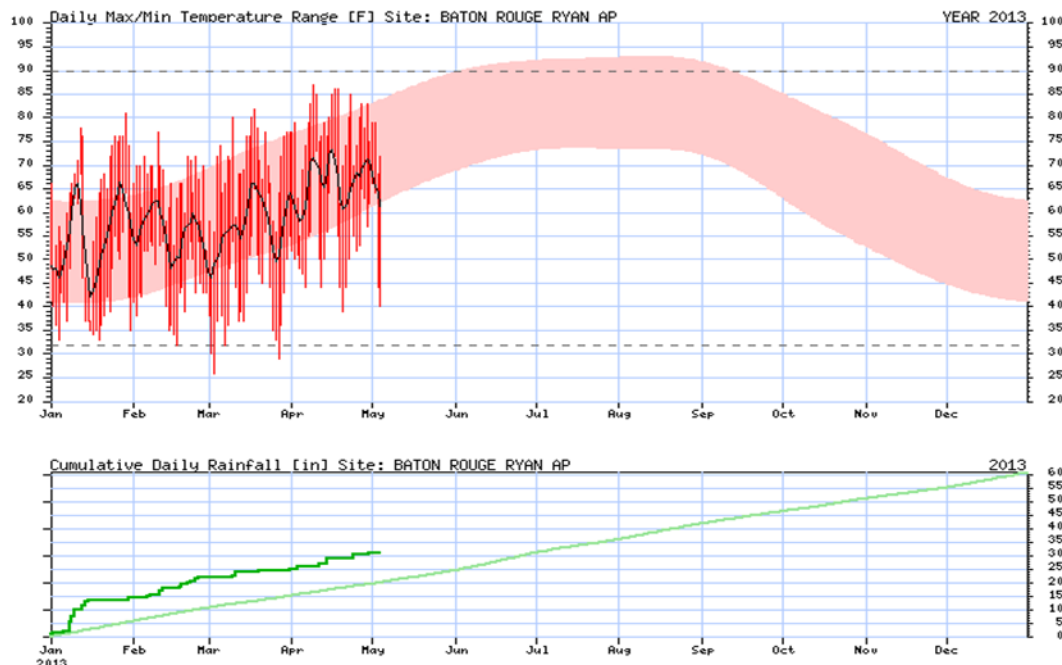
The National Climatic Data Center (NCDC) Local Climatological Data for Baton Rouge's Metro Airport (BTR) shows 5 days with thunderstorm activity during the month: April 3, 13, 14, 24 and 30. However, a review of preliminary hourly and daily reports indicates thunderstorms in the area on both April 11 and 24 -- substantial rainfall was recorded at BTR on both days as well.

Fog occurrences at Metro Airport were fairly typical for April, with 14 days when visibilities dropped below 7 miles. In addition, BTR April hourly data indicate periods of dense fog ( $\text{vis} \leq \frac{1}{4}$  mi.) at Metro AP during the early morning hours on the first and last days of the month. But once again, numbers from the NCDC LCD for April differ from the preliminary reports, listing only 13 days with reduced visibilities and no days with "heavy" fog.

April 2013 winds at Metro Airport averaged 7.4 mph, near-normal (7.6 mph) for the spring month. Daily winds averaged above 10.0 mph during two 2-day spells: April 9-10 and again on April 17-18 -- both periods were associated with pre-frontal weather. Daily winds were "near-calm" (averaging under 3.0 mph) on three dates: April 1, 12 and 29.

Peak sustained winds (lasting one minute or more) topped 20 mph on 8 April days, with the month's maximum sustained wind of 31 mph recorded on April 3rd, associated with an early morning thunderstorm. Peak daily gusts topped 30 mph on 6 April days, with a monthly maximum gust of 43 mph recorded on the morning of April 14th, likely the result of thunderstorm outflow.

Figure 3: 2013 Daily Temperature and Cumulative Rainfall for Baton Rouge Metro Airport compared to long-term averages (as of 5 May 2013).



Source: LSU Southern Regional Climate Center ([www.srcc.lsu.edu](http://www.srcc.lsu.edu))

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**Table 4:** April 2013 additional reports and observations from the ASOS (Automated Surface Observing System) weather platform at Baton Rouge Metro Airport (BTR). (Data are preliminary.)

## 4a. Significant Weather.

No Days:	Apr 2013	Median*
Thunderstorms	7	4
"Heavy" Fog (Vis** ≤ ¼ mi.)	2	3
All Visibility*** (Vis** < 7.0 mi.)	14	13
Fog / Mist (Vis** < 7.0 mi.)	13	13
Smoke / Haze (Vis** < 7.0 mi.)	3	1

Median\* - based on observations during 2000-2012 (13 years)

Vis\*\* - Sensor Equivalent Visibility; Fog/Mist are distinguished from Haze/Smoke through evaluation of temperature and humidity at the time of observation

All Visibility\*\*\* - total number of days with any obstructions leading to  
At least one observation with Visibility estimated at less than 7 miles

## 4b. Average Daily Wind Speed.

	< 3.0 mph (Near Calm)	3.0 mph < 5.0 mph	5.0 mph < 10.0 mph	10.0 mph < 15.0 mph	≥ 15.0 mph
No. Days	3	1	22	4	0

## 4c. Average Sky Conditions (cloud-cover estimate to 12,000 ft) during "Daylight"

	Clear to Mostly Sunny (0/10ths – 3/10ths)	Partly Cloudy To Partly Sunny (4/10ths – 6/10ths)	Mostly Cloudy To Overcast (7/10ths – 10/10ths)
No. Days	9	8	13

## 4d. Solar/Lunar Summary

*Sunrise-Sunset Durations: (excludes 'Civil Twilight')*

April 1 12.5 hours	April 15 12.9 hours	April 30 13.8 hours
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**Moon Phases:**

Last Quarter Apr 2	New Moon Apr 10	First Quarter Apr 18	Full Moon Apr 25
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**Table 5:** April 2013 significant Preliminary 'Local Storm Reports' as posted by the NWS for the greater Baton Rouge metro area. (Final Reports available through the NWS.)

Date	Time (CDT)	Event	Location*	Parish
4 / 14	1:50 AM	0.75" Hail	Baton Rouge	EBR
4 / 14	2:53 PM	Residential Flooding	New Roads (area)	PC
4 / 24	8:43 AM	T-Storm Wind Damage	4 NW Geismar	IBV
4 / 24	9:35 AM	T-Storm Wind Damage	1 N Plaquemine	IBV
4 / 24	9:55 AM	EF-0 Tornado (Appendix 3)	7 NW Geismar (St. Gabriel)	IBV

\*Locations approximated in whole miles from town center

**Table 6:** April 2013 Watches, Warnings and Key Advisories issued for East Baton Rouge Parish.

Date(s)	Event	Approx.Time in Effect (CDT)
4 / 1	Dense Fog Advisory	12:40 AM - 9:00 AM
4 / 11	Tornado Watch	8:01 AM - 11:04 AM
4 / 14-15	Dense Fog Advisory	10:11 PM - 9:00 AM
4 / 14-15	Flood Warning (Comite River, Joor Rd.)	8:44 AM - 9:27 AM
4 / 14-16	Flood Warning (Amite River, Denham Springs)	8:44 AM - 7:40 PM
4 / 14-17	Flood Warning (Amite River, Bayou Manchac Pt.)	8:44 AM - 9:56 AM
4 / 24	Tornado Watch	6:40 AM - 10:15 AM
4 / 24	Severe T-Storm Warning	7:33 AM - 8:15 AM
4 / 24	Severe T-Storm Warning	7:59 AM - 8:45 AM
4 / 24	Tornado Warning	9:06 AM - 9:45 AM
4 / 24	Tornado Warning	9:43 AM - 10:12 AM
4 / 29	Dense Fog Advisory	3:28 AM - 7:48 AM

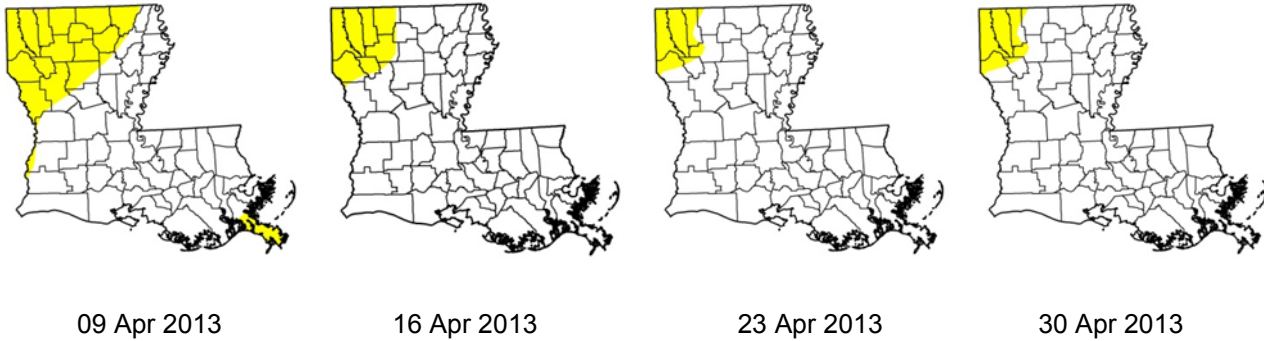
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Figure 4a-d: Louisiana's weekly **U.S. Drought Monitor** for April 2013.

Source: <http://drought.unl.edu/DM/>



April rainfall was not only above-normal across the Baton Rouge metro area but was generally near-normal to above-normal across the state. Near-normal rainfall at this time of year is generally sufficient to avoid drought threats, even after March's moderately-dry weather. In fact, note the reduction in the areal extent of "Abnormally Dry" conditions across northern Louisiana through the month in response to April rains.

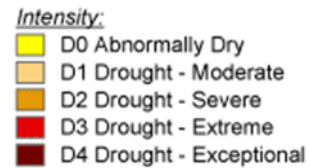
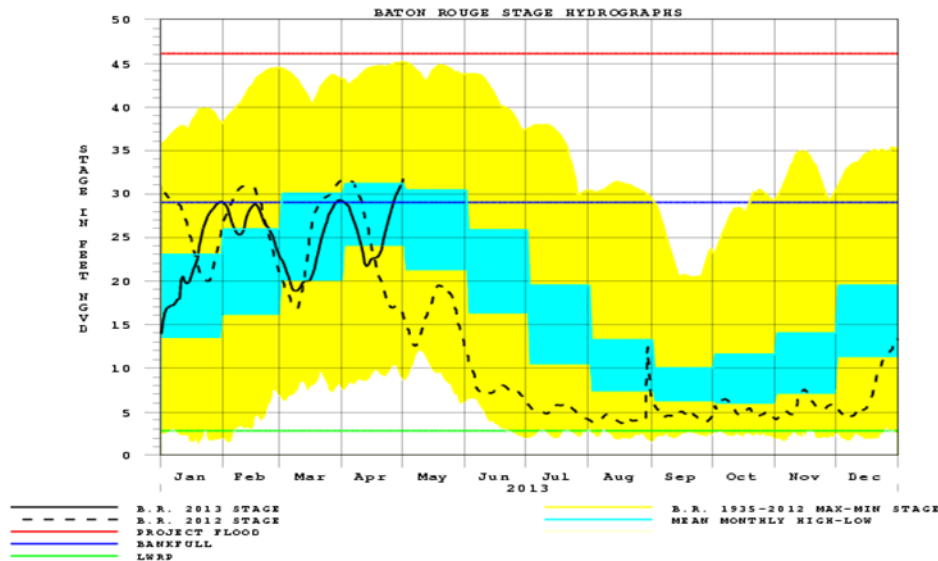


Figure 5: Mississippi River Daily Stage at Baton Rouge for 2013 (solid line) and 2012 (dashed line) as of 3 May 2013, with comparisons to long-term averages and extremes.



Source: <http://www.rivergages.com>, U.S. Army Corps of Engineers

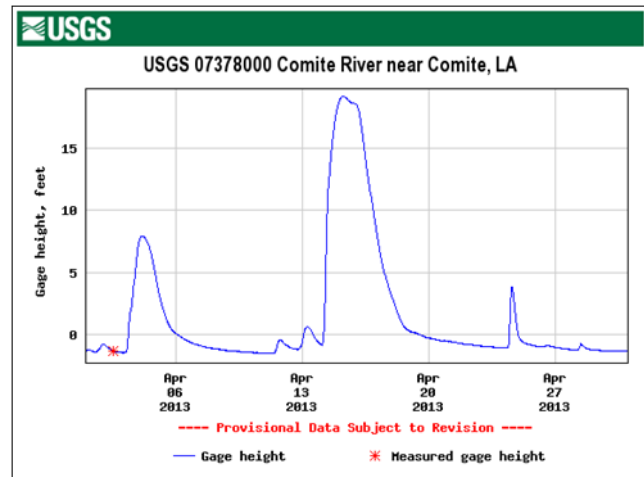
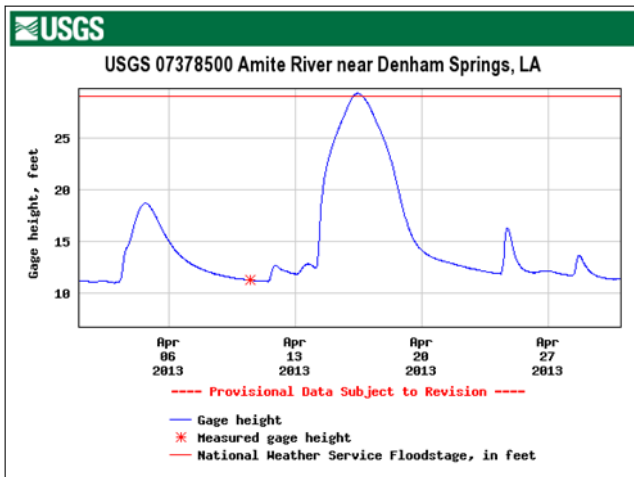
After falling for most of the first half of April 2013, the Mississippi River at Baton Rouge displayed a steady rise through the latter half of the month. While the rising waters were partly a response to the typical spring snowmelt from the upper portions of the drainage area, a far more significant contribution came from the record and near-record flooding reported as a result of unusually-heavy rains over portions of the Upper Mississippi and Missouri basins through early 2013.

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Figure 6a-b: Daily river stages, Amite River near Denham Springs and Comite River near Comite (Joor Rd.) during April 2013.



Source: USGS Louisiana Hydrowatch.

April rain events are clearly evident on the hydrographs for the Amite near Denham Springs and the Comite near Joor Road, with rains at mid-month prompting the most significant rises for the two gaging stations. The Amite River at Denham Springs rose just above flood stage for roughly 13 hours on April 16th, with an event crest of 29.3 ft just prior to mid-day.

## Acknowledgements:

- National Weather Service offices serving Louisiana
- LSU Southern Regional Climate Center (SRCC)
- Louisiana Office of State Climatology (LOSC)
- LSU AgCenter / LAIS AgWeather Monitoring Program
- CoCoRaHS Volunteer Network
- U.S. Drought Monitor (<http://drought.unl.edu/DM/>)
- NWS Climate Prediction Center (NWS/CPC)
- NWS Storm Prediction Center (NWS/SPC)
- NWS Weather Prediction Center (NWS/WPC)
- NOAA/National Climatic Data Center (NCDC)
- Iowa Environmental Mesonet (<http://mesonet.agron.iastate.edu/>)
- U.S. Geological Survey, Louisiana District (USGS)
- U.S. Army Corps of Engineers, New Orleans District (USACE)
- WAFB-TV (Ch. 9), Baton Rouge

Prepared by: Jay Grymes

WAFB-TV Chief Meteorologist & LSU AgCenter Climatologist

8 July 2013

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\*Prepared by: Jay Grymes

(based on available preliminary data as of July 7, 2013)

## Appendix 1: April 2013 Daily Data from Baton Rouge Metro Airport

Date	Max Temp	Min Temp	Avg Temp	AvgT DFN	Avg. DewPt	Daily HDD	Daily CDD	Precip (in.)
1	77	52	65	+1	55	0	0	0
2	79	50	65	+1	55	0	0	0.03
3	63	51	57	-7	56	8	0	1.22
4	55*	48	52	-12	48	13	0	0
5	69	47	58	-6	45	7	0	0
6	74	44	59	-5	49	6	0	0
7	79	55	67	+2	56	0	2	0
8	83	56	70	+5	61	0	5	0
9	87*	71	79	+14	68	0	14	0
10	85	73*	79	+14	69	0	14	0
11	75	50	63	-3	58	2	0	0.82
12	76	44	60	-6	46	5	0	0
13	79	50	65	-1	47	0	0	0.10
14	76	56	66	0	59	0	1	1.80
15	80	64	72	+6	68	0	7	0.03
16	85	73*	79	+13	71	0	14	0
17	86	72	79	+13	70	0	14	0
18	86	55	71	+4	67	0	6	0.29
19	62	44	53	-14	42	12	0	0.01
20	70	39*	55	-13	41	10	0	0
21	74	44	59	-9	45	6	0	0
22	80	50	65	-4	53	0	0	0
23	85	65	75	+6	64	0	10	0
24	70	55	63	-6	60	2	0	1.31
25	74	52	63	-6	49	2	0	0
26	80	53	67	-2	57	0	2	0
27	83	65	74	+5	64	0	9	T
28	78	63	71	+2	65	0	6	0.17
29	83	57	70	+1	60	0	5	0
30	75	62	69	0	66	0	4	0.42
Avg. / Sum	76.9°	55.3°	66.1°	--	60.8°	73	113	6.20"
DFN / %Nrm	-2.4°	-1.5°	-2.0°	--	-9.9°	143%	80%	+1.74"
	(*) - Highest/Lowest				"T" – Trace; less than 0.01"			



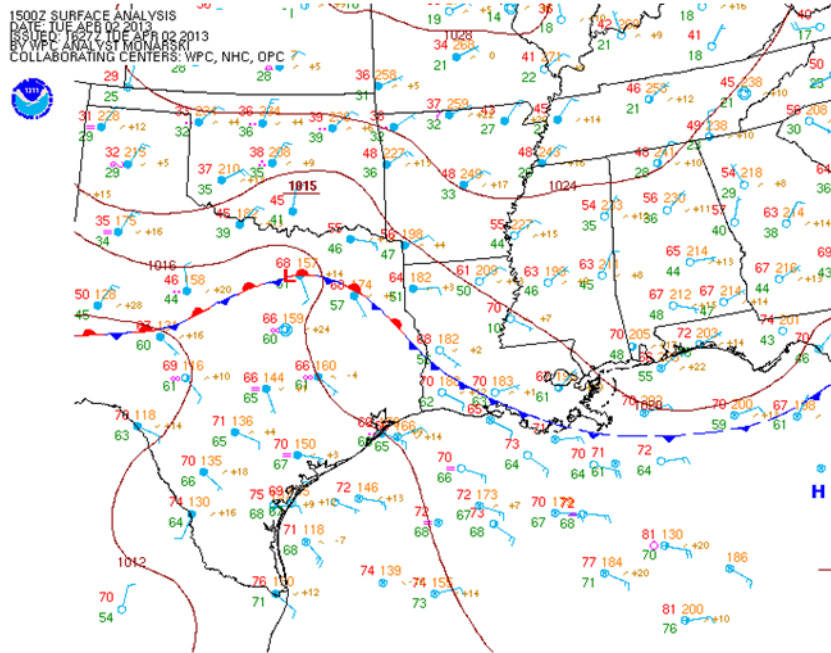
# Baton Rouge Climate Summary—April 2013

\*Prepared by: Jay Grymes

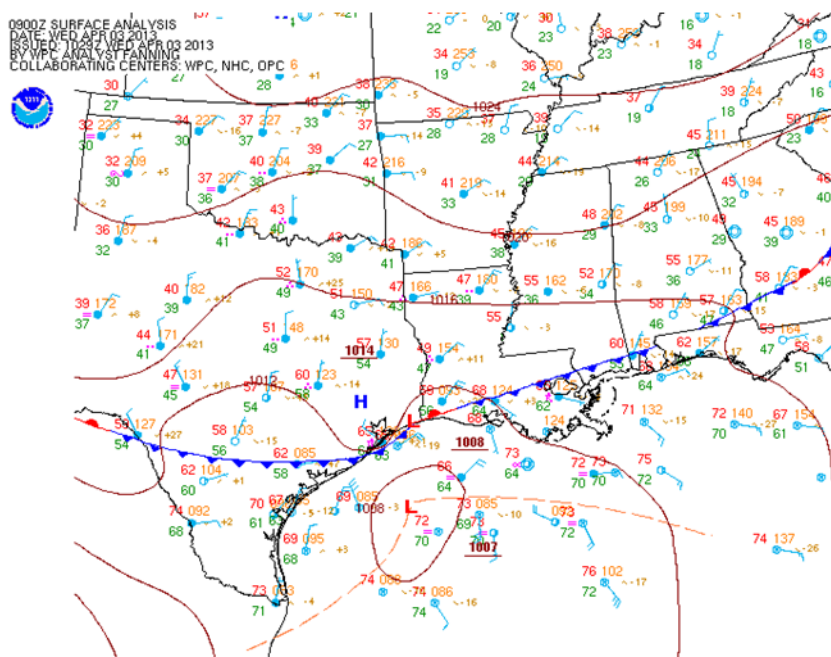
(based on available preliminary data as of July 7, 2013)

## Appendix 2: Surface Weather Charts for April 2013's Significant Weather.

Apr 2: A “backdoor” cold front slid from NE to SW across the Baton Rouge metro area during the morning of the 2nd, but the frontal passage had little significant impact on the local weather.



Apr 2-3: A cold front produced showers and t-storms at Metro Airport from very late on the 2nd into the early morning hours of the 3rd, delivering 1.25" of rain, but no severe weather was associated with this system. The air mass behind the front produced the month's coolest day with a high of only 55° on April 4th.

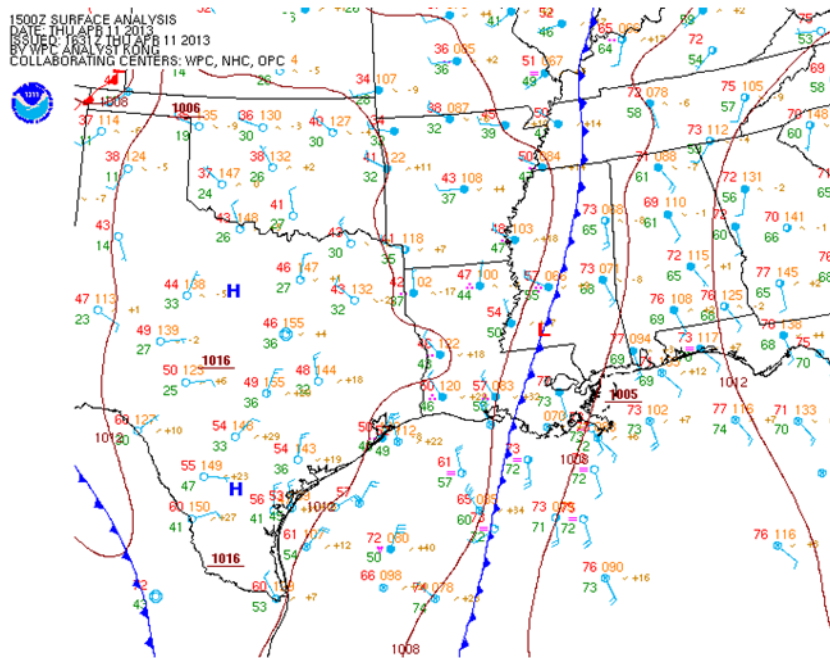


# Baton Rouge Climate Summary—April 2013

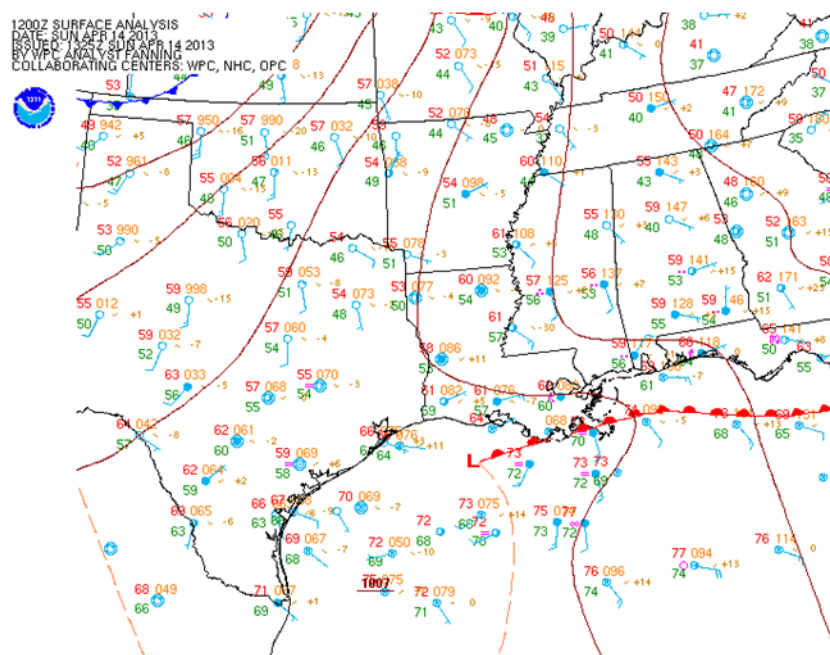
\*Prepared by: Jay Grymes

(based on available preliminary data as of July 7, 2013)

Apr 11: A cold front on the morning of the 11th delivered 0.82" of rain to Metro Airport. Although records indicate a strong t-storm at Metro AP at the time of the front's passage, there were no reports of active or severe weather impacts in the area.



Apr 13-14: A mid/upper-level disturbance combined with a slow-moving warm front lifting out of the Gulf to produce t-storms and nearly 2" of rain at Metro AP late on the 13th into the morning of the 14th. The surface low tracked slowly ENE, crossing the southeastern parishes that afternoon. Hail was reported in the Baton Rouge area, with locally-heavy rains producing street flooding and even a few homes taking water in Pointe Coupee Parish (see Table 5).

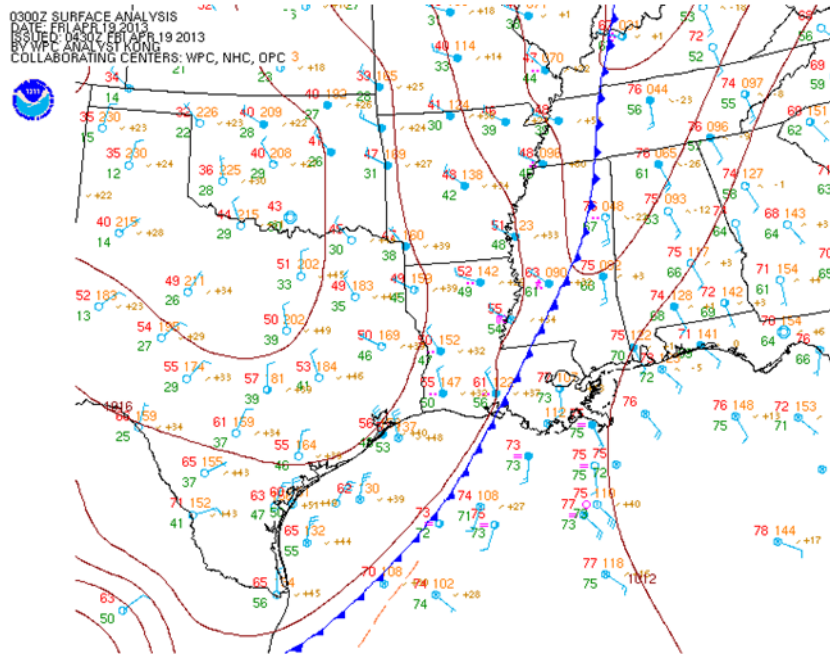


# Baton Rouge Climate Summary—April 2013

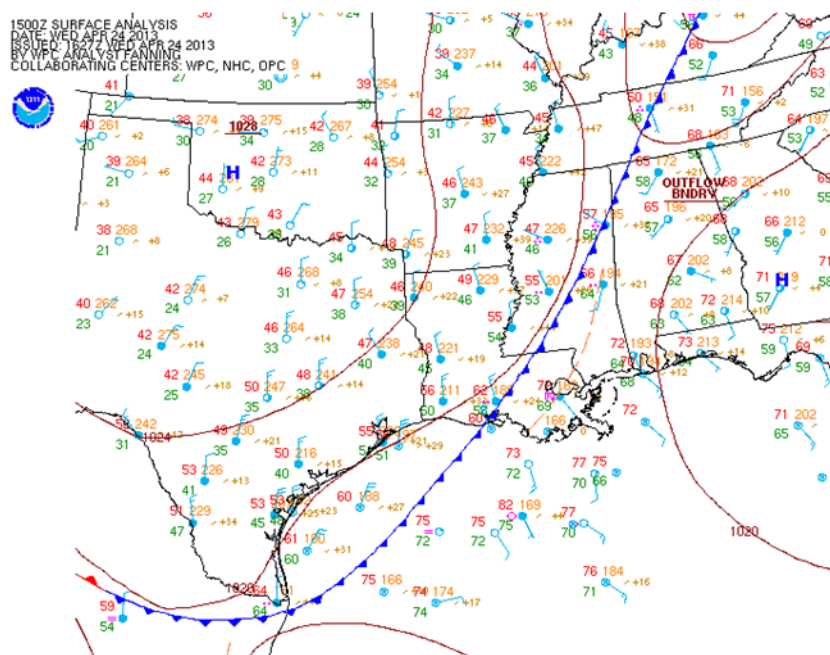
\*Prepared by: Jay Grymes

(based on available preliminary data as of July 7, 2013)

Apr 18-19: April's next cold front slipped through the Baton Rouge metro area early on the 19th; pre-frontal and post-frontal rains totaled a modest 0.30" for Metro AP, with no reports of t-storms.



Apr 24: Probably the stormiest weather event of the month, the weather set-up and frontal passage on the morning of the 24th prompted the NWS to post a Tornado Watch for the region. Two T-Storm Warnings and two Tornado Warnings were issued during that morning, with a confirmed EF-0 tornado touching-down in the community of St. Gabriel. (See Table 5, Table 6 and Appendix 3.)



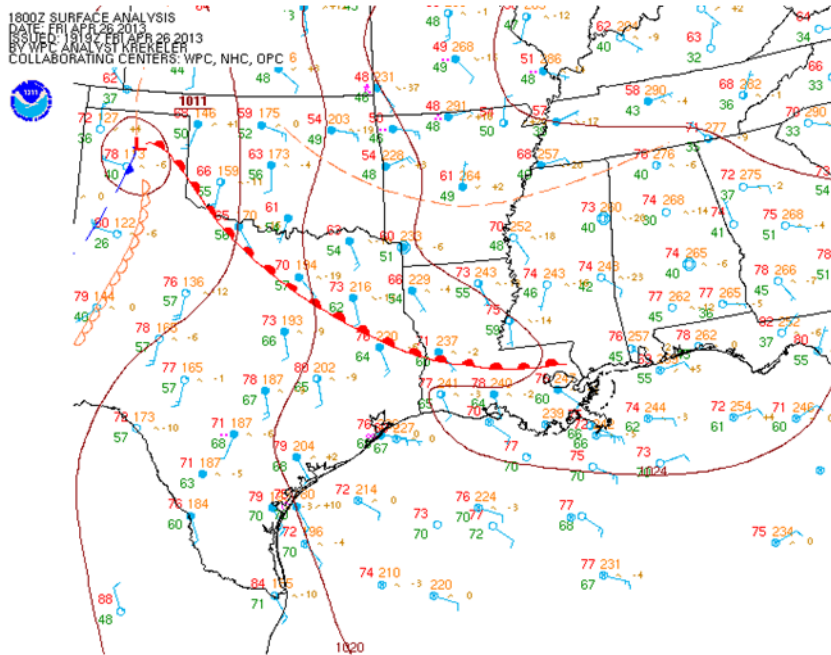


# Baton Rouge Climate Summary—April 2013

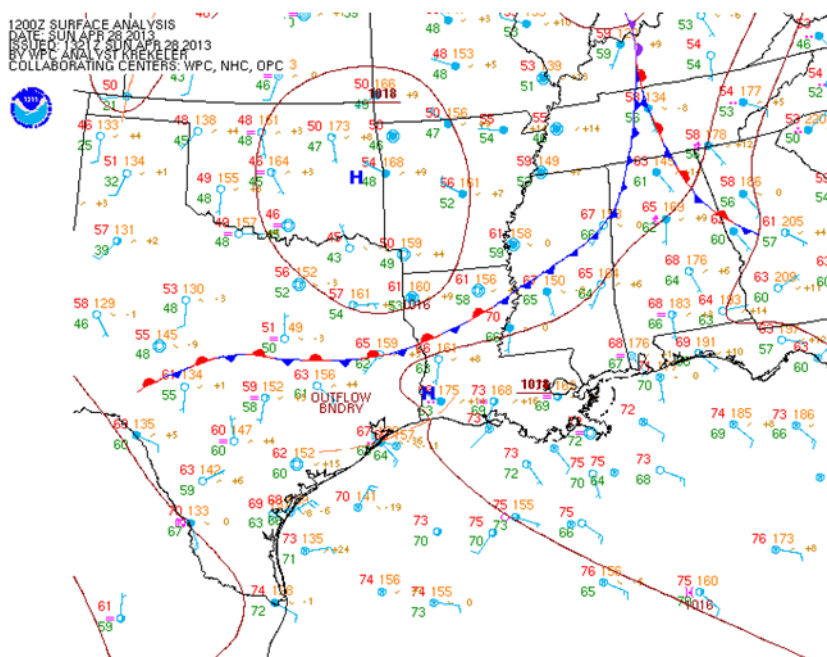
\*Prepared by: Jay Grymes

(based on available preliminary data as of July 7, 2013)

Apr 26: The cold front that passed through the region on the 24th stalled over the northern Gulf, then returned north as a warm front on the 26th. While the warm front generated no rain, it delivered a marked warm-up and wind shift as it moved north of the Capital City along with a relatively brief increase in cloud cover.



Apr 27-28: A mid/upper-level disturbance combined with a stalled front to the north to produce mainly-light rain for the Baton Rouge metro area late on the 27th through the early morning hours of the 28th.



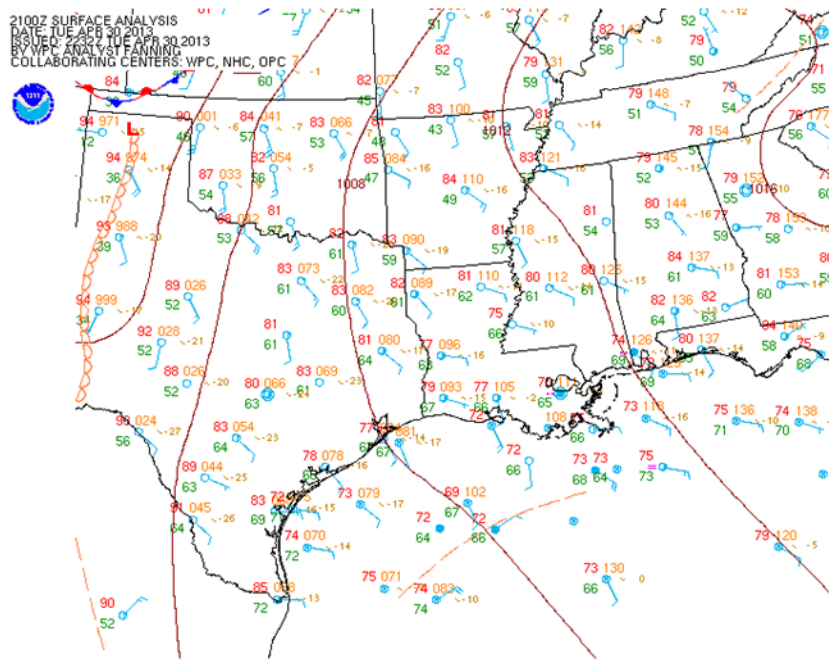


# Baton Rouge Climate Summary—April 2013

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Apr 30: Scattered showers and t-storms on the afternoon and evening of the 30th had an almost summer-like feel to them thanks to a very moist and unstable air mass in place. Note the absence of rain-enhancing surface fronts or troughs over the lower Mississippi Valley.



### Appendix 3: St. Gabriel Tornado on the Morning of 24 April 2013

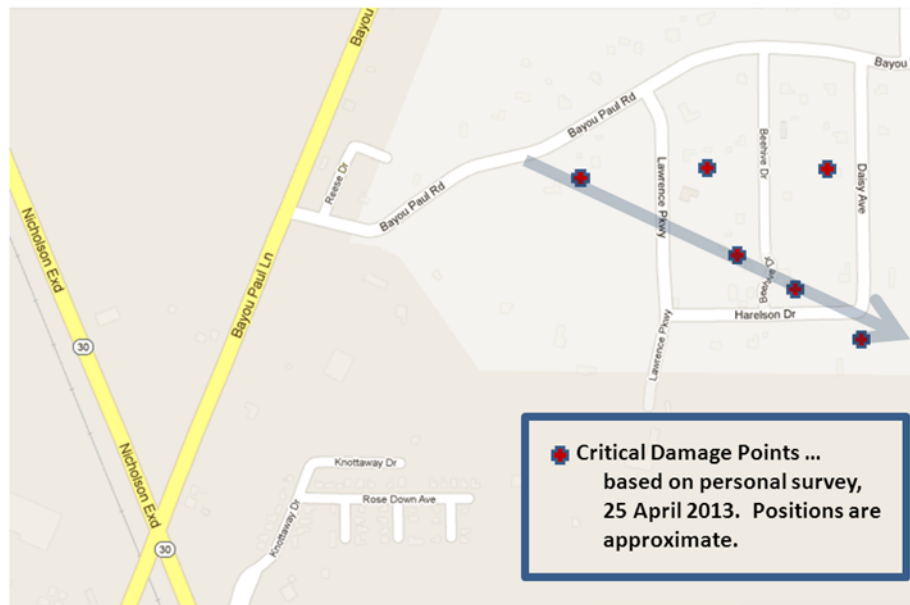
The EF-0 tornado touched-down on the northeastern side of St. Gabriel, just off Bayou Paul Road. Based on radar review and reports by local residents, the tornado appears to have touched-down at about 9:55 AM and remained on the ground for 2-3 minutes.

A NWS survey of the damage noted a path-length of roughly one-third of a mile, with the path width estimated to have reached a maximum of 75 yards while on the ground. Based on the damage survey, the tornado was estimated to be an EF-0 tornado, with estimated peak winds at 85 mph.

There were no injuries or fatalities.

Tree damage was evident along the entire path. The most notable damage occurred to two well-built utility buildings. One lost a carport overhang and the entire metal roof to the covered portion of the building; the other had a large section of metal roofing removed. Other minor structural damage was evident along and near the short storm track.

A trace of the key damage suggests that the tornado may have been moving from northwest to southeast.



*Base Map Courtesy Google Maps*

\*Jay Grymes, LSU AgCenter Climatologist and WAFB Chief Meteorologist, provides the climatology portion of this report as a free service to DEQ and the citizens of Louisiana.